

PROACT CROSSTALK



An Environmental Resource sponsored by HQ Air Force Center for Environmental Excellence

P2 Initiatives

U.S. Air Force Pioneers a Green Process for Re-Painting Aircraft

In 1996, the Science and Engineering Laboratories at Hill AFB in Ogden, UT received Pollution Prevention funding to evaluate non-chromated replacements for hexavalent chromium used in the pre-treatment of aircraft. The goal of the research, led by Senior Chemist Richard Buchi, was to eliminate exposure of highly soluble and carcinogenic concentrations of chromic acid to workers and the Air Force base's environmental community. Hexavalent chrome (HC), a highly hazardous chemical, has been the industry standard for more than 50 years for corrosion protection on aluminum substrates prior to painting. This chemical is included on the EPA-17 Priority Pollutants list of chemicals.

After conducting extensive research of various alternatives deemed unsuccessful, the research team approached the problem systematically by considering surface pretreatment, primer, and topcoat together as a system. By using this innovative approach, the research team identified a new technology that increased adhesion without using hexavalent chromium. The research team worked with the Air Force Corrosion office, the EPA and the private sector to update the existing paint specification to include this new approach, which opened the door to an Air Force-wide adoption of the new technology. This included a resolution to change Technical Order (T.O.) 1-1-8, "Application and Removal of Organic Coatings, Aerospace and Non Aerospace Equipment" to permit the use of a non-hazardous material, PreKote SP. The next revision of T.O. 1-1-8 that will include this change should be released by June 2004.

Due to the efforts of Buchi's research team, the technology is currently deployed on over 1000 U.S. Air Force aircraft and continues to be added to Air Force bases and their aircraft. For those aircraft authorized to use PreKote, HQ AETC has issued policy guidance discontinuing the use of alodine as an exterior surface pretreatment for corrosion control for all AETC lead command aircraft. Bases currently

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using or testing PreKote technology include: Columbus AFB (highlighted in July 2003 Edition of CrossTalk), Vance AFB, Laughlin AFB, Shepard AFB, Altus AFB, Randolph AFB, Tinker AFB, and Luke AFB. In addition, the Army is currently testing the technology on its vehicles and helicopters.

Results of this technology include:

- Exponential reduction in worker exposure to toxic materials (workers no longer need full chemical suits and respirators)
- Dramatically improved waste streams
- Lower overall process costs upon implementation of the technology
- Hill AFB nomination for the EPA's Environmental Excellence Award

Shepard AFB has realized a reduction of approximately 141,850 pounds/17,022 gallons of hazardous waste annually as a result of adopting this new technology. In addition, they no longer require Clean Water Act (CWA) "metal finishers" permitting as a categorical industrial user by EPA. While they have not completely eliminated the use of alodine, they have considerably reduced alodine in the waste stream.

For additional information regarding this technology, contact Richard Buchi at DSN 775-2993.

Pope AFB HAZMAT Program

The 23rd Fighter Group MXS Munitions Flight at Pope AFB has accomplished noteworthy pollution prevention goals within their HAZMAT program. Pope AFB implemented the Hazardous Materials Management Program (HMMP) in 1999 as required by Air Force

CROSSTALK

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Correspondence should be addressed to PROACT's editorial office at 314 E. Commerce Street, Suite 200, San Antonio, TX 78205; DSN 240-4215, (800) 233-4356, or pro-act@brooks.af.mil.

The AFCEE Team

Recognized as a customer-oriented leader and the preferred provider of environmental, planning, design, and construction services.

Editorial Staff

Program Manager

Dr. Samuel Brock

Project Manager

Phil Martin

Sr. Environmental Scientist

Michael Castaneda

Researchers

Carl M. Lehman

Pamela J. Jernigan

Richard Howell, Jr.

Gregory Hines

Instruction (AFI) 32-7086. Their goals were to reduce the overall hazardous materials use and reduce hazardous waste by over 50 percent. To achieve this, they resubmitted all AF Form 3952 requests for the materials on hand to be approved through the Environmental Management Information System (EMIS) system. Form 3952 is used to electronically approve hazardous materials prior to issue to organizations requesting the materials. Pope AFB has significantly reduced the EMIS backlog by eliminating non-hazardous items that are currently in the normal review cycle. By doing this, they were able to reduce the number of labor hours involved in approving each material and reduce system inventory. They achieved their goals of reducing hazardous waste by over 50% and have reduced their EPA-17 chemical use from 900 pounds in the fourth quarter of 2000 to 90.91 pounds in the first quarter of 2004.

During their 2003 Internal Environmental Compliance Assessment Management Program (ECAMP) review, the 23rd MXS Munitions Flight did not have any negative findings. They received two positive findings and their HMMP was benchmarked as the top hazardous materials program at Pope AFB. In addition, Staff Sergeant James Henning was recognized at the January 2004 Environmental Protection Committee (EPC) meeting as the quarterly Pollution Prevention (P2) Award winner.

The HMMP supports the 43rd Airlift Wing (AW), the 23rd Fighter Group, and the 373rd TRS, Detachment 2. The 43rd AW is part of the United States Air Force (USAF) Air Mobility Command (AMC) and was reactivated at Pope AFB on 1 April 1997. The wing operates two squadrons of C-130 Hercules aircraft. The 23rd Fighter Group, headquartered at Pope AFB, is part of the USAF Air Combat Command and home of the USAF's legendary Flying Tigers. The 373rd TRS, Detachment 2 is part of the USAF's Air Education and Training Command (AETC). The organization provides aircraft training for A-10 and C-130 weapons systems.

For additional information about Pope AFB's pollution prevention initiatives, contact the Pollution Prevention (P2) Program Manager, Garland Evans at DSN 424-1635.

New Tools and Guidance

Military range properties are receiving increased regulatory and public scrutiny due to off-base migration of unexploded ordnance (UXO), encroachment and military facility closures. These ranges and target areas have been used to train our nation's armed forces for the numerous wars and conflicts throughout the 20th century. The result is a legacy of degrading UXO that presents an acute explosive hazard and a chronic contaminants concern. Therefore, to ensure that ranges remain a viable resource for future training needs, a guide has been developed to assure that ranges are environmentally sound, not to mention designed and managed in a manner that is compatible and consistent with public safety.

The goal of this guide is to minimize future impacts of UXO on human health and the environment by providing guidance in the use, siting, and design of new range and target areas. Target and range designers, users, and maintainers may use the guide to identify potential adverse conditions that may affect a range or target area's viability. Specifically, this guide focuses on designing targets to be used primarily by the BDU-33 training munition. This guide is to be used by operators, designers, and managers of BDU-33 target areas. It establishes a set of design criteria, and provides areas to examine for potential environmental impacts resulting from the use of the BDU-33 munition and possible mitigative measures to reduce impacts. In addition, the guidebook identifies many issues that may affect the long-term use of a target area or range and presents them in a manner that allows for a methodical evaluation of the design and placement of a target on a range.

To download a copy of this guidebook, visit http://www.afcee.brooks.af.mil/products/ranges/downloads/bdu-33_Sept2003.pdf.

Conference Corner

9th Annual Joint Services Environmental Management Conference San Antonio, Texas August 16-19, 2004

The 9th Annual Joint Services Environmental Management Conference & Exhibition, formerly named the Joint Services Pollution Prevention & Hazardous Waste Management Conference & Exhibition, will be held in San Antonio, Texas, 16-

19 August 2004. This year's theme is "Sustaining the Force: Optimizing Readiness Through the Prevention of Pollution." The conference will bring together thousands of professionals from military services, industry, academia, local, state, and federal agencies to translate ideas, success stories, case histories, current trends, and technologies into solutions for pollution prevention and hazardous waste management challenges. The 4-day schedule includes 224 technical presentations on a variety of topics, over 300 exhibitors showcasing their latest equipment, products, technology, and services along with a networking reception! So don't miss the military environmental event of the year! Make plans now to be in historical San Antonio to experience first hand the event that has become invaluable to those in the pollution prevention and hazardous waste management arenas.

This year's conference is co-hosted by the U.S. Army Environmental Center, Aberdeen Proving Ground, Maryland, and Headquarters, Air Force Center for Environmental Excellence, Brooks City-Base, Texas. The conference will be collocated with the 2004 CADD/GeoSpatial Technology Symposium, 2004 Geobase Compass Conference and the 2004 AFCEE Technology Transfer Workshop. For more information, visit www.p2-hwmconference.com.

ACHMM 2004 Annual Conference 1-4 August 2004

Las Vegas, Nevada

This year's Academy of Certified Hazardous Materials Managers National Conference, geared toward environmental, health and safety professionals, will take place at the Riviera Hotel and Casino in Las Vegas, NV, 1-4 August 2004. Featured speakers include Daniel Arden, Deputy Director of the U.S. Army Chemical School and Carol Browner, former Environmental Protection Agency Administrator. Mr. Arden will discuss "Asymmetrical Threats: Thinking Outside the Box" and Ms. Browner will discuss "Risk Management: Preparing for the Inevitable and How to Manage Public Opinion." The annual conference attracts EHS managers, industrial hygienists, spill response professionals, regulators, and consultants throughout the United States and its territories. The conference will attract approximately 800-1000 environmental professionals.

For additional information regarding this conference, visit www.achmm.org, then go to "Conference."

The Annual Conference on Soils, Sediments and Water

October 18-21, 2004

Amherst, Massachusetts

The Annual Conference on Soils, Sediments and Water has become the preeminent national conference in this important environmental area. The conference attracts 700-800 attendees annually, which includes a wide variety of representation from state and federal agencies; military; academia; a number of industries; and the environmental engineering and consulting community. "Expediting and Economizing Cleanups" is this year's conference theme, which will be supported by the development of a strong and diverse technical program in concert with a variety of educational opportunities available to attendees. Live equipment demonstrations will augment the exhibition section, and focused workshops will provide attendees with practical application information. The conference promises to be an exciting opportunity for all those concerned with the challenge of developing creative, cost-effective assessments and solutions that can withstand the demands of regulatory requirements.

For more information, visit www.umasssoils.com, call 413-545-1239, or e-mail info@UMassSoils.com.

WASTECON 2004 sponsored by Solid Waste Association of North America (SWANA), Phoenix, Arizona, September 21-23, 2004

For over 40 years, SWANA's WASTECON has been the premier event in the solid waste field, providing industry professionals with networking, educational, and career advancement opportunities. Year after year, solid waste professionals return to WASTECON to participate in training courses, attend technical sessions that discuss critical hot topics for solid waste managers, and share experiences with peers through social events and trade shows. The DoD/Federal Employee Package registration is available only to attendees from DoD organizations and the Federal Government (active duty members and civil service employees). DoD will be conducting sessions specific to their needs and participating in many of the WASTECON events. You can register by:

- visiting: www.SWANASTore.com,

- calling: 1-800-GO-SWANA (467-9262),
- faxing registration form: (301) 585-0297 or (301) 589-7068, or
- mailing registration form and payment: SWANA, P.O. Box 7219, Silver Spring, MD, 20907-7219.

The WASTECON 2004 registration brochure is available for download. For more information, visit <http://www.swana.org/sections/wastecon/>.

Regulatory Update

SPCC Ruling Update

In the September 2002 Edition of CrossTalk, we reported the new SPCC rule regarding oil pollution prevention regulations in Title 40 Code of Federal Regulations, Part 112. Since then the EPA has modified the implementation dates for facilities.

Facilities that were in operation before August 16, 2002 must amend their SPCC plans to incorporate the new ruling by August 17, 2005. The items in the plan must then be implemented as soon as possible but no later than February 18, 2006. Facilities that began operation between August 16, 2002 and February 18, 2006 must have the plan written and implemented before February 18, 2006. New facilities that begin operation after February 18, 2006 must have the plan written and implemented before starting operations.

This information is current as of June 17, 2004 according to the information posted on the EPA website. The biggest apparent impact of this rule for the Air Force involves the addition of brittle fracture inspections for all aboveground, field-erected tanks. These tanks will require an inspection in accordance with an industry standard like the American Petroleum Institute or the Steel Tank Institute. The inspections will require a certified inspector and will be performed on a recurring schedule; usually every 10 years. In some cases, the contents of the tank will have to be drained for an inspection of the tank bottom. In addition, the inspection must be redone whenever maintenance is performed on the tank. The new rule also requires integrity testing on all bulk storage containers, which includes all containers 55-gallons and more. Bulk storage containers must have a visual inspection and secondary inspection depending on how the container was constructed. Recent guidance at the

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Tyndall AFB in Focus

Tyndall AFB received the General Thomas D. White Environmental Quality Award in the "Non-Industrial" category. The Installation was nominated for successes in each of the 12 subject areas described in AFI 36-2817. This article highlights achievements in the following subject areas: Clean up of Contaminated Sites; Minimizing Hazardous Waste; and Preventing Pollution.

CLEANING CONTAMINATED SITES

Tyndall AFB's success in cleaning contaminated sites included a variety of actions with the ultimate goal to restore resources that will be used by future generations. The base negotiated with state regulators to create a Memorandum of Agreement involving Institutional Controls to encapsulate fuel-contaminated soil in place. The Institutional Controls are designed to minimize the potential for human exposure to contamination and/or protect the integrity of a remedy by limiting land or resource use. This action was important since it rendered the soils as non-hazardous. Team Tyndall was able to save \$500,000 in waste disposal fees and continued the execution of the project without interruption. This project is ongoing with Tyndall AFB and Florida Department of Environmental Protection (FDEP) working together on acceptance with various construction projects. Other installations can utilize this example by contacting their state officials and forming agreements in order to augment staff effectiveness.






MINIMIZING HAZARDOUS WASTE

In minimizing hazardous waste, Tyndall AFB set a goal enabling the Environmental Flight with complete control over the Hazardous Materials Management Program (HAZMO). In order to achieve this goal, Team Tyndall relocated the HAZMO to the Civil Engineer Squadron/Environmental Flight (CES/CEV), which allowed for better inventory management, customer education, and a robust Free-Issue Program.

Tyndall AFB was the first in AETC to employ a closed-loop paint gun cleaning system that uses biodegradable, water-based material. The former procedure utilized xylene, which is one of the EPA's 17 Industrial Toxic Chemicals. This change reduced exposure to xylene by 96 percent in four maintenance repair facilities and 40 percent base wide. As a result, \$20,000 in disposal costs and 1,328 man-hours in one year were avoided.

PREVENTING POLLUTION

Tyndall AFB's Pollution Prevention Initiative philosophy is based on a hierarchy of actions. First, before considering anything else, Team Tyndall will make a product substitution determination. If that is not an option, the dedicated team will look at reuse and recycling. Disposal is the last resort. Tyndall AFB acquires 267 tons of hazardous materials annually, but due to their P2 philosophy, less than 8 percent is disposed of as hazardous waste. Collectively, the recycling program saved \$7.7 million in disposal costs. By educating base personnel on material use, the installation reduced hazardous waste turn-in by 32 percent. Examples of their recycling initiatives include:

-  Recycled 43,000 tons of concrete and asphalt; saved \$1.2 million in new material purchases
-  Used 15,000 pounds of toxic spent bead blast media from de-painting operations as a plastic feedstock for tables, sinks, and countertops. A bonding process renders the bead blast media non-hazardous so it may be safely used as plastic feedstock.
-  Reduced solvent purchases by 50 percent by using parts washers that extend the life of the water. Solvent recovery units reclaim over 80 percent of cleaning solvent.
-  Reduced hazardous waste by 6.6 tons in the first year; saved \$50,000 in waste disposal fees
-  Reduced the amount of R-22 refrigerant purchased by 25 percent.

Tyndall's exceptional integration of the military mission and environmental stewardship is the result of people dedicated to the goals established by the EMS policy. Tyndall AFB plans to continue their systematic approach for seamlessly and simultaneously executing the missions of national security and resource protection. Team Tyndall has been commended by David Struhs of the FDEP who stated, "You have made environmental integrity an important aspect of the operations at Tyndall AFB."

For more information about these programs contact Jene Doornik-Surber at DSN 523-3699.

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EPA SPCC website will allow many alternative methods to be used. For example, 55-gallon drums stored on a pallet where the bottoms of the drums can be inspected, according to the EPA, would serve as equivalent protection, thus allowing compliance with the rule. The EPA states that further guidance will be forthcoming on integrity testing for bulk storage containers.

For additional information regarding the ruling and any additional changes not reported here, visit <http://www.epa.gov/oilspill>.

WE WANT YOUR SUCCESS STORIES!!

If your installation has achieved an environmental success that you would like to share with other installations, please send your story and contact information to proact@brooks.af.mil or contact PROACT at DSN 240-4240. Use the following as a guideline in preparing your information:

- ✧ What is the environmental success?
- ✧ How was the success implemented?
- ✧ How much money/time was saved as a result of the effort?
- ✧ What was the timeline for implementation and realized results?
- ✧ How can other installations create the same or similar success?

Provide the point of contact name, phone number and e-mail to be published in CrossTalk.

“In our customer’s own words”...

“I have always received excellent service!”

Mark Summers
Robins AFB, GA

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*“Thanks for your continued dedication, support and quality service!”*

Brenda Zehr  
McChord AFB, WA

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“The PROACT team I dealt with assisted greatly in a difficult risk communication issue related to PCBs. I would recommend them to anyone”

Rick McComb
Hickam AFB, HI

